



Maricopa HOME Consortium

(October 4, 2005)

Minimum Basic Housing Rehabilitation Standards

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Preface:

The purpose of these standards is to establish guidelines, define when the Entitlement Community will undertake a rehabilitation project, and what must be accomplished to qualify the project as a success as dictated by the Uniform Housing Code.

HUD regulations require that all houses receiving major rehabilitation work be brought up to a minimum standard. This document represents the Maricopa HOME Consortium's efforts to meet HUD's requirements. Although the text of this document makes reference to Entitlements, the intent is an agreed upon rehabilitation standard for each member of the Maricopa HOME Consortium as a collective. Each member may exceed the standard herein.

The Maricopa HOME Consortium Minimum Housing Rehabilitation Standards are derived from the standards established by the (NARRP) "Nationally Applicable Recommended Rehabilitation Provisions" of May 1997*, which are based on the provisions of the Uniform Building Code (UBC), Uniform Housing Codes, and HUD Section 8 Minimum Housing Quality Standards.

The NARRP was prepared for HUD by the NaHB research Center, Inc., Building Technology, Inc., Koffel Associates, Inc. And Melvyn Green and Associates, Inc. For purposes of this document the following definitions are applicable:

Rehabilitation: A method to provide decent, safe and sanitary housing to low and moderate-income individuals; it is not a method to provide remodeling and/or renovation.

Standard Housing: A well-maintained residential structure constructed on a permanent, stable foundation exemplifying solid structural integrity reflecting weather tightness that insulates against the elements and that incorporates the basic mechanical systems of plumbing, electricity, heating, hot water, toilet facilities, and kitchen facilities as prescribed in the UBC.

Sub-Standard Housing: A residential housing unit that lacks any of the following: A permanent solid foundation, exemplifies a lack of structural integrity and weather tightness; lacks minimal insulation, has deficiencies in the basic mechanical systems in that they do not meet current UBC, or evidences deferred maintenance to the degree that the structure becomes subject to increased decay.

The following standards are set forth only as minimum standards and should be reviewed by contractors, developers, homeowners and city/county officials as minimum requirements that provide guidance in undertaking rehabilitation projects. Consideration will be given to the requirements established by the Entitlement Community's Building Department and Fire Department, prior to beginning rehabilitation work. Some of the standards may exceed minimum code requirements of the Uniform Housing Codes but they are being presented to meet minimum quality standards required by HUD.

This Rehabilitation Standard recognizes the National FHA standards as a base quality guide which is used in local and state requirements for housing construction. National standards for housing include:

UBC - Uniform Building Code
UPC - Uniform Plumbing Code
ASTM - American Standard Testing Material
NEC - National Electrical Code
*ASHRAE - American Society of Heating,
Refrigeration, and Air
Conditioning Engineers*
Radon Gas Regulations
Section 504, Rehabilitation Act of 1973
Fair Housing Amendments Act of 1988
American with Disabilities Act of 1992
Fair Housing Accessibility Guideline
Model Energy Code (MEC)
Flood Plain Regulations
Noise Regulations
Asbestos Regulations
Lead Base Paint Poison Prevention Act
High Pressure Gas Regulations
PCB Regulations
NFPA - National Fire Protection Association
Wet Land Regulations
Uniform Federal Accessibility Standards
American National Standards Institute
*Minimum Property Standards for
Multifamily Housing HUD 4910.1*
Termite Control Requirements

I. Site Conditions must meet the following criteria:

Positive Drainage: All drainage on a site should drain away from the house and other accessory buildings, but not toward any adjoining houses or structures. Drainage should be toward the street, alley, or easement, and facilitated by elevation around structures or construction of swales.

Architectural Barriers: In recognition of the Americans with Disabilities Act, every effort should be taken to remove barriers to the handicapped or elderly. These will include installation of handrails on staircases with more than three tiers, ensuring that the height of each step does not exceed four to seven inches in height and nine inches in tread width. When pouring new sidewalks and stoops, ramping should be considered as an

alternative to steps. Tripping situations caused by uplifting of sidewalks, tree roots, or other barriers should be removed.

Holes or Depressions: Holes or depressions of more than six inches in diameter should be filled to correct drainage problems and remove safety hazards. **Trees, Bushes and Grassed Areas:** Trees that present a safety hazard because electrical wiring runs through them must be trimmed as directed by SRP or APS electrical utilities. Trees that could damage the structural integrity of an adjoining building above or below the foundation should be removed. All unsightly and overgrown trees in the yard and in the right-of-way should be trimmed as prescribed by the Entitlements Codes. Bushes and brush in a yard should be trimmed in the same manner, but any vegetation on the property line will require approval in writing by the adjoining property owners. While the installation of grass is not proposed to be a standard, the property owner is required to keep all ground vegetation below eight inches, excluding flowers and other similar plants. However, the maintenance of lawns is strongly encouraged.

Dilapidated and Accessory Buildings: Any structure that is in a state of disrepair or collapse must be repaired or demolished, and any collection of building materials.

Bulk Trash: Bulk trash, including refrigerators, stoves, washers, dryers and other appliances; un-licensed automobiles and other vehicles; and improperly stored construction materials or firewood, is bulk trash and should be removed or appropriately stacked as prescribed by the Entitlement's Nuisance Ordinance.

Sidewalks: All accesses to residential structures should have a three and a half foot of sidewalk that connects with other sidewalks or driveways to provide access to the house that can be maintained for safe passage. Sidewalks from rear door entrances to garages, garbage disposal areas, and around to the front are not required and need not be provided unless they are needed to control drainage conditions.

Storm Gutters and Driveways: Deteriorated gutters on streets that impede drainage or cause a safety hazard should be reinstalled. This also applies to driveway approaches. Deteriorated driveways should be replaced as a second priority item; meaning that if the cost of rehabilitation exceeds prescribed thresholds they may be left as is. The installation of driveways is encouraged but is not necessary if costs reach predetermined thresholds.

Quality Standards Threshold: The property shall be free of those foreseeable hazards and adverse conditions which may affect the health and safety of the occupants or the structural soundness of the improvements, or which may impair the customary use and enjoyment of the property. The hazards include toxic chemicals, radioactive materials, other pollution, hazardous activities, potential damage from soil or other differential ground movements, ground water, inadequate surface drainage, flood, erosion, or other hazards located on or off site. The site must meet the standards set forth at 24 CFR Part 51, and HUD Handbook 4910.1, Section 606 for termite and decay protection.

II. Foundations must meet the following criteria:

Stability: The foundation must be stable and not sinking, window openings must be level, and top of foundation at base of structure must be level. The foundation should also be constructed of solid concrete meeting the Entitlements building codes. Reconstruction of foundations must adhere to the Entitlement's foundation design including the installation of rebar. Lack of stability beyond a reasonable level will preclude rehabilitation being undertaken. **Collapsed Sections:** Collapsed sections of foundations must be reconstructed as prescribed by the Entitlement jurisdictions code or a stamped engineer's blueprint. Consideration should be given to the degree to which the remaining foundation meets the minimum UBC.

Cracks: Inspectors should evaluate foundations to identify cracks, particularly at window areas. All cracks must be filled with epoxy, cement, and filled with appropriate cement materials. All cracks with more than a 1/8 inch spread must be investigated by a licensed engineer and have an appropriate treatment applied, if economically feasible.

Inappropriate Construction: All foundations constructed of brick, unfilled cement block, cinder block, mixtures of rock and cement, railroad ties, and other treated wood are unacceptable and will disqualify a structure from receiving rehabilitation unless the areas with faulty foundations can be reconstructed economically.

Spalling Foundation: Spalling refers to the condition exemplified by crumbling gravel or rock, decaying concrete, collapse of foundations in sections that do not expose dirt on the outside, etc. When these conditions exist, foundations must be treated with epoxy and concrete mixtures that will correct major deficiencies. Spalling of foundation surfaces of not less than one inch in depth may be left untreated, but treatment is recommended when rehabilitation cost thresholds are not an issue.

Quality Standards Threshold: Evaluation of the quality of installation and workmanship shall be evaluated against ASTM 04.01 and 04.02 for cement, concrete and aggregates or local code compliance reviews as determined appropriate by the inspector.

III. Structural Integrity must meet the following criteria:

Structural Integrity: This means that the exterior walls are weather tight and do not permit entry of water or wind into the interior. There cannot be any holes in the exterior walls, separation of siding materials, collapse of siding or deterioration of exterior siding materials. All exterior walls must be of standard construction with two-by-fours, 16 inches on center or 24 inches on new construction when appropriate. Insulation sheathing on the exterior, covered with approved exterior siding material, is to be installed when repairs are done.

Weather Tight Exterior Walls: In addition to the above siding considerations, there cannot be cavities between the exterior wall and windows, door entries, or openings at the rafters at the rim joist. All deficiencies must be corrected.

Additions: All additions to residential structures must be on a properly constructed foundation and must not evidence separation from the original structure. Many additions

in Arizona are constructed on concrete slabs that may cause separation. When these conditions exist, they may preclude rehabilitation from being undertaken.

Siding Material: Asbestos siding is not an inappropriate siding material unless it has become broken and detached and is exposing the insulation fabric to the weather. When possible, asbestos siding should be repaired. Asphalt siding is considered to be an inappropriate material by the Fire Safety Council. It may be covered by a fire retardant siding material when rehabilitation is undertaken. Only older deteriorating asphalt material will be considered for such treatment. Interior paneling, untreated plywood, sheetrock and other materials that do not hold up to the weather in the area are deemed inappropriate and must be removed.

Bearing Walls: Bearing walls in a structure should be identified and inspected for proper construction. No bearing walls may be removed when undertaking rehabilitation unless appropriate construction procedures are applied and required supports are installed to compensate for their removal.

Painting and Exterior Walls: While chipping, cracking and deteriorating paint is not a structural problem, the Entitlement's rehabilitation efforts require these conditions to be corrected. If the structure was built prior to 1978, in particularly when there are children residing in the house, the Entitlement requires that a lead-base paint analysis be conducted. When lead-base paint is found to exist on exterior walls they must be resided with an appropriate siding material. (See HUD Lead-Based Paint regulation.)

Historic Considerations: All structures in historic districts or those with architectural features that exemplify unique architectural characteristics must be given special consideration. The State Historic Preservation Office shall be involved in making specific decisions affecting these projects and on any home that was built 50 years ago or more.

Quality Standards Threshold: Evaluation of the quality of installation and workmanship shall be evaluated against ASTM 04.10 through 04.12 for wood, building construction and property management systems or local code compliance reviews as determined appropriate by the inspector.

IV. Roofs must meet the following criteria:

Roofing Specifications: Roofing specification requires that when replacing any roof with more than two layers of shingles, all roofing materials must be replaced to the deck for inspection by the Entitlement Community's Building Department prior to re-roofing. Re-roofing requires 30 lb. felt paper, and depending on the slope, T-locks, three tab, or roll roofing as prescribed by the City Code. Replacement of tile roofing or built-up roofing will be done to meet local codes.

Trusses and Supports: On structures over 50 years of age, the truss and support system of roofs must be inspected to ensure adequate construction. When deficiencies are identified, appropriate supports and truss systems must be reconstructed.

Chimneys: All non-functioning chimneys must be removed and the cavity repaired with

at least half inch weatherproof plywood. All exhaust vents must be located at least two feet above the roof; and all attic spaces must be vented through the roof or through other appropriate areas.

Slope Requirements: All roofs must have at least a four inch to one foot slope. Roof areas not having such a slope should be considered for reconstruction to meet minimum slope requirements. Reconstruction should occur whenever the reconstruction area is wider than nine feet on the stooped side and leaking cannot be prevented by installation of rolled roofing or rubberized roofing membrane.

Fascia and Soffit Board: All fascia and soffits around the perimeter of a roof should be inspected for deterioration and replaced, caulked, and painted when necessary. Houses exemplifying exposed rafters do not necessarily have to be reconstructed to cover with fascia and soffits. Fascia board, however, should be installed whenever gutters are in place or the gutters with the owners approval be removed.

Quality Standards Threshold: Evaluation of the quality of installation and workmanship shall be evaluated against ASTM 04.04 and 04.05 for roof and weatherproofing systems or local code compliance reviews as determined appropriate by the inspector.

V. Interior Walls must meet the following criteria:

Fire Barriers: Five-eighth inch Type X sheetrock is required under joist in garages that have a living area above them and on walls in garages adjoining living quarters. Five-eighth inch Type X sheetrock is also required when another structure is within five feet of the wall being reconstructed as part of the rehabilitation activity. No cardboard materials, paper materials, tar paper, or exterior insulation materials, such as fiber board, will be permitted in any walls.

All interior walls should be ½ inch sheetrock. Paneling materials must be placed over sheetrock.

Damaged Interior Walls: Holes in sheetrock must be repaired and precautions taken to prevent future damage by installation of door stops and other necessary measures. Water damaged sheetrock must be removed and replaced. In bathrooms, water proof green rock, blue rock or other similar drywall material must be utilized. Interior walls with decayed sheetrock must be repaired by installing new sheetrock, taping cracks, texturing and repainting.

Interior Trim in Baseboard: All damaged door trim and baseboard must be removed and replaced.

Paint: A lead-based paint analysis must be conducted on houses constructed prior to 1978 that evidence chipping, flaking, cracking and otherwise deteriorating paint. If testing reveals the existence of lead-based paint surfaces, they must be removed or covered as prescribed by HUD Lead-Based Paint regulations. **Ceilings:** All cracked or deteriorating ceilings require an inspection to determine the cause that generated the

problem. Every effort should be made to correct the problem before the ceiling is repaired. Cracks must be filled and retextured, and the ceiling completely repainted when treated. When ceiling material does not evidence fire retardation or solid construction, it should be replaced with ½ inch sheetrock and treated. Tile and Waterproof Areas: When there is decaying ceramic or plastic tile in bath or shower areas, the deteriorated area must be removed. Water proof sheetrock must be installed, and old or new tile reinstalled, grouted, and caulked. Backslashes in kitchens and above other sinks may also be required depending on the condition and layout of sinks and other plumbing. Minimum Interior Height Condition: All interior living areas are required to be at least seven and one-half (7 ½) feet in height. All interior door openings must be six feet, eight inches (6'8"). Rehabilitation will not be undertaken in rooms that do not provide at least seven (7) feet of head clearance.

Quality Standards Threshold: Evaluation of the quality of installation and workmanship shall be evaluated against ASTM 04.10 through 04.12 for wood, building construction and property management systems or local code compliance reviews as determined appropriate by the inspector.

VI. Kitchen Facilities must meet the following criteria:

Minimum Cabinet Requirements: All kitchens must have sufficient base cabinets to house a kitchen sink and provide at least 36 inches of usable counter-top area. At minimum, three feet of upper cabinets must be available to store dishes. These minimum requirements should be expanded to optimize kitchen storage areas, but within reasonable limits controlled by costs. When a cabinet's level of wear make it unsanitary or nonfunctional, it should be replaced. All replacement cabinets must be of minimum quality grade and approved by the project manager, prior to ordering.

Counter Tops: All counter tops showing evidence of wear, water damage, uplifting of surface material, etc. must be replaced. Replacement counter tops may include prefabricated laminated counter tops when walls are sufficiently square. When walls are not square and constructed of plaster materials, counter tops must be built in place, using a minimum of 5/8 inch plywood with plastic laminate on the plywood and on the front lip. Backsplash must be of the same laminated material or ceramic tile as prescribed by the homeowner and the City. Counter surface installations will of Formica grade or equal.

Faucets: All kitchen plumbing must be inspected to ensure that faucets and drain pipes work properly. When new counter tops require sink removal, new sinks and faucets must be provided if they show wear. All new sinks must be vented as prescribed by the Uniform Plumbing Code (UPC). New sinks must be 20 gauge (not the cheapest sinks available). New faucets must be Delta stainless steel. P-traps and other drains under the sink shall meet local Entitlement's code. Stoves, Refrigerators and Fans: Stoves, either gas or electrical, should be inspected. While the Entitlement does not usually provide stoves or refrigerators as part of the rehabilitation effort, deficiencies in appliances will be pointed out and on a case by case basis determination will be given to acquire new appliances. The Entitlement will install new fans over cooking areas.

Installation of fans sometimes requires installation of a cabinet for attachment of the fan.
Plumbing installation

Flooring: Worn flooring with uplifted tiles, missing tiles, and uplifted cracked areas, etc., require that new flooring be installed. The use of indoor, outdoor, or other carpeting is discouraged due to sanitation considerations. These conditions can be addressed by installing vinyl floor covering when the owner agrees to the treatment. The Entitlement will not install ceramic tile, vinyl tile, indoor/outdoor carpeting or wood covering in kitchen areas.

Lighting and Electrical: GFI outlet receptacles will be required on all duplex outlets within six feet of sink areas/water sources. Minimum lighting in kitchens will consist of one lighting fixture in the kitchen cooking area and one lighting fixture in an adjoining eating/dining area, if the lighting is inadequate. The use of fluorescent lighting is an acceptable alternative.

Quality Standards Threshold: In evaluation of the quality of installation all manufactured factory finished cabinets shall comply with ANSI A161.1-86, Recommended Minimum Construction and Performance for Kitchen and Vanity Cabinets, or local code compliance reviews as determined appropriate by the inspector.

All counter top material shall be phenolic laminate, vinyl plastic covering, ceramic tile, stainless steel or other material suitable for its intended use. All edges, including the sink and any built-in surface units, shall have a non-corrodible metal molding or other suitable edging.

VII. Baths must meet the following criteria:

Minimum Requirements: The minimum standard in a residential structure is as follows: One functional toilet, lavatory, towel rack, ring or hook, and either a shower or a bathtub. Any additional baths in a house, at minimum, must contain toilet stools, towel rack, ring or hook and a lavatory.

Sinks: All faucets must have hot and cold water knobs and must be in good functioning condition. The sink must have a proper drain with P-trap and be vented to the outside as prescribed by the Uniform Plumbing Code. Shut-off valves at the water line connection are required when replacements are made. Replacement of sinks will involve use of pre-finished medium grade vanities; one piece cultured marble sink tops and Delta or better faucets.

Ventilation: All bathrooms must have an operational window or a functional electric vent fan. Doors: All bathroom doors must be at least 28-inches wide by 6 feet 8 inches in height, and have locking doorknobs from the inside of the bathroom or have other ways of locking the door (standard bathroom door knobs). Where bathrooms are located next to kitchens, the Entitlement Code requires sealing gaskets on the door.

Tub Enclosures: All bath or shower facilities must have waterproof enclosures. These enclosures can include ceramic tile, plastic tile, or fiberglass molded enclosures. They may not include brick, linoleum, floor tile, or other permeable materials. On baths that do not have showers, an 18-inch high waterproof skirting must be provided utilizing any of the above acceptable materials.

Flooring: All bathroom flooring must be inspected at the base of the toilets to ensure that leaking is not occurring. When leaking has occurred and sub floor has rotted, the sub floor must be removed and replaced by half-an-inch plywood. Whenever a toilet is removed for any purpose, new toilet wax-ring gaskets must be installed. Any flooring material that permits water to seep into the sub floor is unacceptable. The Entitlement will replace substandard floors in bathrooms with vinyl sheet material. Carpeting in bathrooms is generally not be considered an appropriate floor material.

Medicine Cabinets and Mirrors: Because children should be prevented from easy access to medicine, cabinets are required in most bathrooms. Mirrors must also be provided when they are not present. The Entitlement will not purchase elaborate and expensive medicine cabinets with mirrors unless the homeowner is paying for them.

Lighting: All bathrooms must have at least one light that can be switched from the inside. Lights switched from the outside generally do not need to be moved, unless rewiring is to be conducted in the house. All receptacles must be GFI type in bathroom areas.

Quality Standards Threshold: In evaluation of the quality of installation, resilient flooring shall be installed over a suitable underlayment and in compliance with the recommendations of the manufacturer. The products used shall be installed in accordance with the manufacturer's instructions and/or recommendations. All flooring shall meet minimum FHA standards for quality.

Unless otherwise specified all fixtures will meet or exceed quality standards of Standard American brand.

VIII. Bedrooms must meet the following criteria:

Minimum Bedroom Sizes: The minimum size for a bedroom will be 7 feet by 10 feet, but larger sizes should be encouraged. When new construction is involved, minimum size will be 11 1/2 feet by 9 feet.

Closets: All bedrooms must have access to closets for storage of clothing. On existing housing, closets in adjoining hall areas are acceptable. **Windows:** All bedrooms must have an egress window in addition to the door. Egress windows must be no more than 44 inches from the floor and permit at least 5.7 square feet of egress area. Windows must be operable and have locking mechanisms.

Doors: All bedrooms must have a functional door that closes, which, preferably can be locked from the inside. The width must be at least 28 inches, but bedroom doors are commonly 30 inches wide or larger. When new construction is undertaken, a 32 inch door should be considered. The door cannot have punctures or holes. The door may be of hollow core material.

Lighting: All bedrooms must have one switchable light fixture, preferably in the interior of the bedroom next to the entrance.

Outlets: Outlets are required to permit coverage of the entire room by an appliance with a six-foot cord. Use of extension cords is discouraged and additional outlets should be provided whenever possible to avoid their use.

IX. General Electrical must meet the following criteria:

Service: All residential properties should have adequate electrical service to a mast above 10 feet from the ground. Each house must have a 110 and 220 voltage service and an electrical breaker box that is completely accessible. The electrical switch boxes on the exterior must be capable of being locked. **Knob and Tube Wiring:** Knob and tube wiring in attics is not acceptable when insulation covers the wires. This type of wiring needs to expel heat through the insulation and is considered to be a potential fire hazard when covered by insulation. Knob and tube wiring in attic must be replaced with romex whenever insulation is to be undertaken. Knob and tube wiring in walls where insulation is not to be accomplished may be left intact. It is the policy of the Entitlement rehabilitation programs not to do complete rewiring because it is beyond the scope of rehabilitation resources available to the Entitlement.

Ground Faults: Ground fault electrical outlets must be provided within six feet from any water source such as sink or lavatory. Also, they should be provided to provide coverage for all outdoor outlets and garages.

Safety Considerations: All electrical connections must be in enclosed metal or plastic electrical boxes. No hanging wires are permitted. All light fixtures should be inspected to ensure that they are solidly hung and that the electrical connections have not been loosened. All electrical fixtures that evidence wear must be replaced with new fixtures. All electrical outlets and switches must have tight cover plates. Any switches or outlets which are non-functional must be inspected by a licensed electrician and all electrical problems corrected. Light switches on staircases, must be double switched at the top and bottom of the stairs. Living quarters are preferred to be electrically switched at entrances. Exterior lighting at the front and back doors must be provided. These lights must be weather proof and switched from the interior at the access/egress point.

Service to Accessory Buildings: Electrical service to garages and large storage buildings must be inspected. If they are found to be inappropriate or lacking, service

may be provided, but only at minimal levels and the service should be ground faulted. Protection must be provided.

Quality Standards Threshold: In evaluation of the quality of installation all electrical work shall be performed in a workmanlike manner and in accordance with good usage and accepted practices. All materials shall be made and installed so they perform in accordance with their intended purposes.

X. General Plumbing must meet the following criteria:

Policy: With regard to plumbing, it is the policy of the Entitlement, when doing federally funded housing rehabilitation, to require the following minimum plumbing:

Type of Pipe: All repairs undertaken must be accomplished with standard copper pipe and with soldered fittings. Plastic and galvanized pipe that needs to be replaced may be repaired with similar materials. Whenever galvanized or lead pipe is found and is in significant disrepair, copper pipes will be used. Plastic or PVC pipe is a local code issue and allowed only as is permitted by the Entitlement.

Venting: The Uniform Plumbing Code requires that all drains be vented. All drains that are changed as a result of replacing fixtures must be vented in accordance with the Uniform Plumbing Code. All drains must be provided with appropriate P- traps and vented in accordance with the Uniform Plumbing Code.

Faucets: All replacement faucets provided by the Entitlement must be metal with chrome plating or stainless steel material. All faucets must be washerless. Consideration should be given to elderly or handicapped individuals requiring handicap faucet knobs to facilitate use of toilet and kitchen facilities.

Functional Sewer Lines: Each residential property must have its own functional sewer line. All houses with problems with sewage backup must be investigated and repairs made to the sewer line.

Shut-off Valves: All fixtures which are removed and replaced require the installation of shut-off valves. Preexisting conditions if not part of required repairs are not required to meet this standard.

Water Meter Readout: A water meter readout on the outside of the house must be provided whenever possible. Gas Meters: All gas meters located on the inside of the house, garage or storage room, must be moved to the outside of the house.

Vent Stacks: All vent stacks must be at least one foot above the roof and appropriately sealed to prevent infiltration of water. Water Heaters: In areas of high-water pressure, water heaters must have expansion tanks.

Quality Standards Threshold: In evaluation of the quality of installation for plumbing, each living unit shall be provided with a continuing and sufficient supply of safe water under adequate pressure and of appropriate quality for all household uses, and one that will not impair the functioning or durability of the plumbing system or attachments.

XI. Weather Tightness must meet the following criteria:

Policy: It is the policy of the Entitlement to assure weather tight residential structures that promote maximum conservation of energy. Primary Windows: The Entitlement recognizes that the replacement of primary windows can be very expensive. Primary windows are not to be replaced unless they are rotted and are permitting the infiltration of air or rain. Rotted sills and trim may be replaced or covered to eliminate decay or to cover lead-based paint. All primary windows should have locking devices for security.

Door: The Entitlement will provide steel insulated doors whenever the existing doors and door frames are in states of decay. When door jambs are still in good condition or the doors are of unusual sizes, solid core wood, prefinished or unfinished doors will be provided. All exterior doors should be provided with locking hardware and deadbolt security locks. All new and existing doors must be weather-stripped and a weather tight threshold installed when necessary. Use of hollow core veneer and panel doors are substandard and not acceptable.

Wall Insulation: The Entitlement will generally not provide wall insulation unless interior or exterior walls expose the studs during rehabilitation. When the framing is exposed, fiber glass rolled insulation must be installed. When siding is in bad condition or when there is evidence of lead-based paint, ½ inch insulating Styrofoam may be installed under new siding material.

Roof Insulation: All ceilings under attics or roofs must be insulated to at least an R-30 value. Blown-in insulation will be utilized to accomplish the work in the most economic fashion. If any other treatment is proposed by the owner, the owner will be responsible for the difference in the materials.

Exterior Siding Materials: Asbestos siding will be acceptable and will not be replaced unless over 25 percent of the exterior surface evidences broken or fallen siding. Asphalt siding is generally considered as a fire hazard by the Uniform Fire Code and old siding of this type should be considered for removal and be replaced. In some cases, the siding may be left as an insulating material. All holes in the walls (regardless of material type) must be repaired and cracks filled with caulking to prevent infiltration of the weather.

Exterior Siding Repairs: Exterior paneling materials such as unpainted plywood, sheetrock, tar paper, cardboard, or metal patches are unacceptable siding materials.

Quality Standards Threshold: In evaluation of the quality of installation in all siding, millwork and trim, knots, resinous wood, and nail holes shall be sealed with a prepared sealer or aluminum paint prior to puttying and priming. Any nail holes or cracks in surfaces to be painted shall be filled with putty. A prime coat shall be applied to all surfaces to be painted before or immediately after installation. Primer shall be formulated specifically for application to unfinished wood. Finish coats formulated to

serve as primers may be used. All sidings shall be finished in accordance with the manufacturer's direction.

XII. Re-roofing Specifications must meet the following criteria:

Housing rehabilitation with federal funds is generally for older houses that often were improperly constructed by today's code standards. Contractors are required to do much more extensive work on these houses to ensure that an adequate roofing job is provided. The following steps are required. All roofing material must be torn off to the deck when there is more than one layer of shingles on the roof or the section of roofing is more than 30-years-old. After tearing off the roof, the contractor must request an inspection from the Entitlement's Building Department to determine what repairs to the decking must be made. The rehabilitation standards require ½ inch CDX plywood instead of particle board. After making repairs required to the roof decking, the contractor must provide new flashing as needed, replace all rotted or broken fascia board and overlay the entire deck with thirty (30) pound felt. The contractor will then install T-lock shingles or rolled roofing over areas not meeting slope requirements as required by this code. Each T-lock shingle must have at least two nails.

The contractor is required to storm nail shingles along the edges of the roof and/or provide aluminum roof finish edge. All debris from the roof must be contained in a vehicle or other appropriate containers and removed from the site to an appropriate disposal area required by Entitlement Code. All debris must be removed from the site upon completion of the tearing-off portions of the work. The contractor will be sure that debris from the roofing does not damage vegetation or cause potential danger to residents or other persons.

Quality Standards Threshold: In evaluation of the quality of installation the edges will be squarely trimmed and no excess of tar or other water proofing materials will be left on home surfaces. The quality of installation and workmanship shall be evaluated against ASTM 04.04 and 04.05 for roof and weatherproofing systems or local code compliance reviews as determined appropriate by the inspector.